Evidence - Based Practice An Integrative Approach to Research 3rd edition Hall Test Bank

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PART I: ***Critical Appraisal of Research to Support Scholarship***

Chapter 1: Quantitative Research

1. The _____ is the one of primary interest to the research, also called the outcome.
a. dependent variable
b. independent variable
c. confounding variable
d. conceptual variable
Answer: a
Rationale: The dependent variable is the variable of primary interest to the researcher; it also may be called the outcome. An independent variable is manipulated by the researcher to influence the dependent variable; it also may be called the predictor variable. The confounding variable is an extraneous third variable that influences the relationship between the independent and dependent variables. Conceptual variables have attributes or characteristics that differ in quantity or quality and describe people or things (Babbie, 2012), and they must be operationalized.

2. Which method is a type of nonprobability sampling?
a. Stratified sampling
b. Quota sampling
c. Cluster sampling
d. Systematic sampling
Answer: b
Rationale: There are two types of sampling: probability sampling and nonprobability sampling. Probability sampling means that all participants have the same chance of being chosen in the sample. Four probability sampling methods are simple random sampling, stratified sampling, cluster sampling, and systematic sampling. Nonprobability uses methods such as convenience sampling, quota sampling, purposive sampling, and snowball sampling.

3. The term "_____" means a standardized measurement instrument appears to measure what the researcher intended to measure.
a. construct
b. internal validity
c. face
d. reliability
Answer: c
Rationale: Face means the instrument appears to measure what the researcher intended. *Reliability* measures the consistency and stability of responses over time in a standardized measurement instrument. Reliability does not ensure that measures are accurately measuring what researchers think they measure. Construct is when validity is convergent when results correspond to the results of methods measuring the same concept. It has discriminant validity when results do not highly correspond to other constructs as they do with measures of the same construct. Internal validity is the degree to which we can confidently conclude that the treatment caused the outcomes observed.

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4. The _____ group design is considered weak because there is no control, and therefore no point of comparison.
a. quasi-experimental
b. time-series
c. nonequivalent comparison
d. one-shot case study
Answer: d
Rationale: Despite the weakness of this study design, one-shot case studies are used quite frequently. In higher education, student evaluations of teaching are an example of this design. Many hospitals and social service agencies use this design to ask patients or participants about their knowledge or skills gained from a service. The problem with this design is that there are no points of comparison. Quasi-experimental-design involve assignment to two groups without randomization or the use of a comparison group in place of a control group. Although less rigorous than an experimental design, quasi- experimental designs are an improvement over preexperimental designs. Time series design allows the research to examine the question of whether there was a trend in the data both before and after the intervention. Opinions differ as to how many pretests and posttests are needed in a time-series design. In some designs, the dependent variable is measured four times before the intervention and four times after. The nonequivalent comparison group is a type of quasi-experimental design, but more rigorous. It gets the same number of observations of the dependent variable in the same time frame but does not receive the intervention. The multiple time-series design addresses the concern that an external event occurring simultaneous to the intervention could have influenced the dependent variable.

5. Which statement indicates with a high degree of certainty that an explanatory relationship exists between two variables?
a. The independent variable comes before the dependent variable chronologically.
b. The relationship between the independent and dependent variables is influenced by a third variable.
c. The independent and dependent variables cannot be explained as being the result of an empirical relationship with one another.
d. The dependent variable is associated with the independent variable in a nonequivalent control group.
Answer: a
Rationale: There are three criteria that can produce a high degree of certainty that an explanatory relationship exists: (1) The independent variable (cause) should come before the dependent variable (effect) chronologically. (2) The independent and dependent variables should be empirically related to each other. (3) The relationship between the independent and dependent variables cannot be explained as the result of the influence of a third variable.

6. Which two techniques set an experimental design apart from preexperimental or quasi-experimental designs?
a. Nonequivalent comparison groups and intervention
b. Control groups and randomization
c. Hypotheses and pretest-posttest design
d. Two nonrandomized groups and a comparison group

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Answer: b
Rationale: Control groups and randomization. A control group is a set of research respondents who resemble the experimental group in every way except that they do not receive the target intervention of the research study. Randomization is the assignment of respondents to either the experimental or control group at random. In a nonequivalent comparison groups and intervention design, one group is exposed to a treatment, a nonequivalent group is not exposed to a treatment, and then the two groups are compared. Hypothesis and pretest-posttest design assesses the dependent variable before and after the stimulus or intervention is introduced. Without a control group, it is not possible to rule out these alternative explanations. Two nonrandomized groups and a comparison group design lack an experimental design because they are not randomized and if outcomes are different, it cannot be ruled out that the possibility that demographic differences between the groups led to the difference in outcomes.

7. In the Solomon four-group design respondents are divided into:
a. four experimental groups; each group is given one, two, or three pretests.
b. two experimental groups and two control groups; one experimental group and one control group are pretested and the others are not.
c. three experimental groups and one control group; the control group is pretested and the experimental groups are posttested.
d. four groups: experimental, quasi-experimental, preexperimental, and control.
Answer: b
Rationale: If researchers would like to know about pretest-posttest change but are concerned about the problem of testing effects, they can use the Solomon four-group design. This is a highly regarded research design that involves dividing respondents into four groups: two are experimental, and two are control. One of the experimental groups and one of the control groups are pretested but not the other.

8. Three faculty members are grading the same paper to establish interrater reliability. Which scenario best determines interrater reliability?
A. Faculty A-80 Faculty B-82 Faculty C-85
B. Faculty A-95 Faculty B-100 Faculty C-70
C. Faculty A-97 Faculty B-96 Faculty C-94
D. Faculty A-93 Faculty B-84 Faculty C-88

Answer: c
Rationale: Interrater reliability is the degree of agreement or consistency between raters. Faculty teaching across multiple sections of a course will typically grade the same paper using the same rubric to determine they are all grading on the same level. This is known as establishing interrater reliability. Faculty group C has most established interrater reliability-their scores range from a 94 to a 97 (within 4 points). Faculty group A has a score range from 80-85 (within 5 points). Faculty group B has a score range from 70-100 (within 30 points). Faculty group D has a score range from 84-93 (within 9 points).

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9. _____ are commonly used in experiments on drugs so that participants will not know whether they are receiving the drug or not. In psychosocial or health education interventions, an alternative program that is not expected to affect the outcome can be used for the same purpose.
a. Pretest-posttest designs
b. Meta-analyses
c. Reactivity effects
d. Placebos
Answer: d
Rationale: Use of a placebo has become standard practice in drug studies, but it also can be used in other types of intervention studies. Researchers who examine psychosocial or health education interventions can introduce an alternative program that is not believed to have an impact on the dependent variables of interest as a placebo for the control group. Pretest-posttest designs are used to test the effectiveness of a drug or a program. A pretest would be administered prior to the intervention and following the intervention to determine the effectiveness of the intervention. Meta-analysis is "a set of statistical techniques for combining quantitative results from multiple studies to produce a summary of empirical knowledge on a given topic" (Littell et al., 2008, pp. 1–2). Meta-analysis is used after data have been extracted in the systematic review process. Reactivity effects is when a research participant changes the way they behave because they know they're being observed.

10. Which term a set of statistical techniques to combine the quantitative results of many studies, producing a summary of empirical knowledge on a given topic?
a. Meta-analysis
b. Systematic review
c. Quantitative research
d. Nonequivalent comparison
Answer: a
Rationale: Meta-analysis has been defined as "a set of statistical techniques for combining quantitative results from multiple studies to produce a summary of empirical knowledge on a given topic" (Littell et al., 2008, pp. 1–2). Meta-analysis is used after data have been extracted in the systematic review process. A systematic review is a process of comprehensively locating and synthesizing the research on a particular question using organized, transparent, and replicable procedures (Littell et al., 2008). Quantitative research is the process of collecting and analyzing numerical data. Nonequivalent comparison is a quasi-experimental design which has not been randomly assigned to conditions.

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